

CLAIM AMENDMENTS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-20. (canceled)

21. (new) A vaccine which is protective in a bovine species against respiratory disease resulting from *Mycoplasma* infection comprising

- (a) at least two inactivated *Mycoplasma bovis* biotypes;
- (b) inactivated *Mycoplasma alkalescens*;
- (c) an adjuvant; and
- (d) a pharmaceutically acceptable excipient.

22. (new) The vaccine of claim 21 further comprising antigenic material of other viruses or microorganisms known to be bovine pathogens.

23. (new) The vaccine of claim 22 where the antigenic material is from *Staphylococcus aureus*, *Pasteurella hemolytica*, *Pasteurella multocida*, *Hemophilus somnus*, Bovine Respiratory Syncytial Virus, Bovine Diarrhea Virus, *E. coli* or Infectious Bovine Rhinotracheal Disease.

24. (new) The vaccine of claim 21 where the adjuvant is an aluminum hydroxide-oil emulsion; a mineral, vegetable, or fish oil-water emulsion; a water-oil-water emulsion; incomplete Freund's adjuvant; *E. coli* J5; dextran sulfate; iron oxide; sodium alginate; Bacto-Adjuvant; a synthetic polymer; Carbopol; a poly-amino acid; a co-polymer of amino acids; saponin; carrageenan; REGRESSIN®; N, N-dioctadecyl-N'-N'-bis(2-hydroxyethyl) propanediamine; a long chain polydispersed $\beta(1,4)$ linked mannan polymer interspersed with O-acetylated groups; deproteinized cell wall extracts from a non-pathogenic strain of *Mycobacterium*; mannite monooleate; paraffin oil; or muramyl dipeptide.

25. (new) The vaccine of claim 21 where the respiratory disease is respiratory pneumonia.

26. (new) A vaccine composition comprising

(a) an immunologically effective amount of (i) at least two inactivated *Mycoplasma bovis* biotypes and (ii) an inactivated *Mycoplasma alkalescens*, wherein said immunologically effective amount is protective in a vaccinee against Bovine Respiratory Disease resulting from *Mycoplasma* infection;

(b) an adjuvant; and

(c) a pharmaceutically effective carrier.

27. (new) The vaccine of claim 26 further comprising antigenic material of other viruses or microorganisms known to be bovine pathogens.

28. (new) The vaccine of claim 27 where the antigenic material is from *Staphylococcus aureus*, *Pasteurella hemolytica*, *Pasteurella multocida*, *Hemophilus somnus*, Bovine Respiratory Syncytial Virus, Bovine Diarrhea Virus, *E. coli* or Infectious Bovine Rhinotracheal Disease.

29. (new) The vaccine of claim 26 where the adjuvant is an aluminum hydroxide-oil emulsion; a mineral, vegetable, or fish oil-water emulsion; a water-oil-water emulsion; incomplete Freund's adjuvant; *E. coli* J5; dextran sulfate; iron oxide; sodium alginate; Bacto-Adjuvant; a synthetic polymer; Carbopol; a poly-amino acid; a co-polymer of amino acids; saponin; carrageenan; REGRESSIN®; N, N-di-octadecyl-N'-N'-bis(2-hydroxyethyl) propanediamine; a long chain polydispersed $\beta(1,4)$ linked mannan polymer interspersed with O-acetylated groups; deproteinized cell wall extracts from a non-pathogenic strain of *Mycobacterium*; mannite monooleate; paraffin oil; or muramyl dipeptide.

30. (new) The vaccine of claim 26 where the respiratory disease is respiratory pneumonia.